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1939

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CHRONICLE OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

The radio communiqués of the International Institute of Agriculture will be transmitted between 2.45 and 2.52 p. m. on the following days: Thursday, English ***and*** German; ***Friday,*** Spanish; ***Tuesday,*** Italian ***and*** French.

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The hour of broadcasts is Central European Time, which is one hour ahead of Greenwich Mean Time, and 5 hours ahead of Eastern Standard Time in the United States.

International Forestry Centre. — With reference to the information published in No. 7 of the Chronicle (July), this Centre started work on July 1.

International Office of the Scientific Association of Agriculture in Hot Countries (Paris, June 24, 1939). — The Chief of our Section of Tropical and Subtropical Agriculture took part in the meeting of this Office, which was held on June 24 at Paris.

International Meetings. — Below is given information regarding recent or forthcoming international events.

Xth Congress of the International Chamber of Commerce. (Copenhagen, June 26 to July 1, 1939). — The Institute asked Mr Einar Cohen, Member of our advisory committee and Chief of the Bureau of Statistics at Copenhagen, to represent it at this Congress.

XXIVth Session of the Committee of the International Wine Office. (Paris, June 29, 1939). — The Institute was represented by M. Augé-Laribé, French Delegate to the Permanent Committee.

VIIth International Chemical Congress of Agricultural Industries. (Budapest, July 10 to 20, 1939). — With reference to the information published in our Chronicle No. 4 of February last, the Chief of the Department of Agricultural Science and Practice took part in the work of this Congress on behalf of the International Institute of Agriculture.

VIIth World Poultry Congress. (Cleveland, Ohio, July 28 to August 7, 1939). — The Institute was represented by Mr. Marquis, United States Delegate to the Permanent Committee.

IVth International Congress of Animal Husbandry. (Zurich, August 9 to 12, 1939). — As stated in our Chronicle No. 2 of February last, the Chief of the Institute's Department of Agricultural Science and Practice, accompanied by a member of the staff specializing in animal husbandry, will take part in this Congress.

VIIth International Congress of Genetics. (Edinburgh, August 23 to 30, 1939). — With reference to the information published in our Chronicle No. 4 of April last, the Institute will be represented by Mr Kendall, of the Ministry of Agriculture and Fisheries, London, in place of Mr Enfield, British Delegate to the Permanent Committee of our Institute.

VIth International Vine and Wine Congress. (Bad Kreuznach, August 21 to 30, 1939). — The Institute has asked M. Weber, German Delegate to the Permanent Committee, and M. Bilbao, Spanish Delegate to the Permanent Committee, to represent it at this Congress.

Vth International Congress of Wood Utilization. (Zurich, August 29 to 31, 1939). — With reference to the information published in Chronicle No. 4 for April last, the following provisional programme for the Congress has been drawn up:—

(1) Selection and appraisal of sawn wood from the point of view of technical building.

(2) Nail Construction, its importance and development.

(3) New woods suitable for employment in the cellulose industry, their scientific and economic properties.

On the occasion of this Conference excursions will be organized for September 2, 3 and 4. For further information apply to the Travel Bureau Kuoni, Bahnhofplatz 7, Zurich.

XIIIth International Congress of European Beet-growers. (Cambrai, Boistrancourt, Paris, Francières, September 24 to 29, 1939). — The Institute has asked M. Augé-Laribé, French Delegate to the Permanent Committee of our Institute, to represent it at this Congress.

IIIth International Forestry Congress. (Helsinki, July 1940). — Further details regarding this Congress will be supplied later.

IIIth International Congress of Rural Engineering. (Rome, from September 20 to 23, 1939). — The International Institute of Agriculture will place its buildings at the disposal of this Congress organised by the F. I. T. A. (Federazione internazionale dei Tecnici agricoli, Rome).

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INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1939 No. 8

DISCOVERIES AND CURRENT EVENTS *

Argentine Republic: First Record of *Erwinia carotovora* in the Country †

Leonardo Halperin and Lydia Spaini, of the Division of Phytopathology of the Ministry of Agriculture, have recently reported the first appearance in the country of *Erwinia carotovora* (L. R. Jones) Holland.

This organism has been isolated from white cabbages (José C. Paz, Buenos Aires and Villaguay, Entre Rios) and from peppers (Salta). Laboratory experiments have confirmed the investigations made in other countries as to the serious damage caused by this parasite to peppers, tomatoes, cucumbers, potatoes, carrots, radishes and kohl-rabi.

White cabbages in the fields or stored may be attacked as a result of the moisture which accumulates in the ' heads ', more especially in plantations for seed, and owing to the action of insects or other pests facilitating penetration of the organism. The same may be said in regard to the other hosts.

The damage done by this parasite is not limited to the plantations; vegetables in store are also attacked. On splitting the heads of this cabbage, the tissues within are found to be disintegrated and mingled with bacterial ooze.

Control is best effected by maintaining the plantations in good condition and by preventing other parasites from preparing the way for the attacks of this organism. The first plants found to be attacked must be destroyed by fire so as to avoid of the spread the parasite. The rotation crops should be those that are immune, such as cereals and forage crops.

In store, good ventilation conditions should be maintained, damp should be avoided and the temperature kept near 0° C. so as to check the development of the parasite. Storehouses may be disinfected with copper sulphate, and vegetables already attacked must not be introduced.

Madagascar: Behaviour of the Red Locust (*Nomadacris septemfasciata*) from 1935 to 1938 §

The first biological observations made in Madagascar on the behaviour of the red locust (*Nomadacris septemfasciata*, Serv.) were reported in two notes published in 1935 and 1936 (see this *Bulletin*, 1937, No. 1, p. 13). Numerous

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from the official correspondent of the Institute, M. Juan B. MARCHIONATTO, Agricultural Engineer, Director of Plant Health, Ministry of Agriculture, Buenos Aires, Argentine Republic.

§ Communication from the official correspondent of the Institute, M. CLAUDIUS FRAPPA, Agricultural Engineer and Colonial Agronomist, Director of the Laboratory of Agricultural Entomology, Pasteur Institute, Antananarivo, Madagascar.

investigations on this species have since been carried out by the Central Anti-Locust Bureau in charge of locust control in the Colony.

The first swarms of *N. septemfasciata* identified with precision in Madagascar were those of Ankaramena (Ambalavao-Fianarantsoa) on March 23, 1934, and Ankazoabo (N. E. Tulear) on March 15, 1935.

At the end of 1935, a few groups of insects of this species were observed in the south and south-west of the Colony, chiefly near Betioky, Androka, Ampotaka, and Antanimora.

In 1936, a very careful survey was made of the outbreak centres in this region and it was possible to ascertain the invasion area not only in the zones previously reported, but also near Ampanihy, Ejeda, Beloha and Tsihombe. Further north, a group was observed near Bassy-Bassy (Befandriana-Tulear) in March, 1936.

As from October, 1936 a large swarm, the origin of which it was not possible to specify exactly, settled in the Itasy region, in the centre of the island, over an area of more than 250 hectares and caused damage to the valuable crops of the district (tung, beans, maize).

In 1937-38, the invasion area remained much the same. The species was infrequent in the Antandroy and Mahafaly districts (south and south-west of the Colony) and mainly localized in the neighbourhood of the Onilahy (Tongobory), Linta (Ejeda) and Menarandra (Ampanihy and Mahatsandry) rivers. On the other hand, to the north of Tulear, this locust, already reported near Bassy-Bassy in 1936, spread to such an extent in the Betioky-North, Befandriana and Bas Mangoky cantons that from January to March, 1938 about 200 large hopper bands were destroyed.

In the centre of the island (Itasy), the destruction of hopper bands was carried out whenever the size of the bands permitted.

At the beginning of 1938, two large swarms were reported in the north of the island, near the mouth of the Mahajamba River, and in May, 1938 in the south of the Antsakabary post.

The observations made during the course of recent years in Madagascar, therefore, show that the locust problem is more complex than had been thought, the damage to crops being caused not only by *Locusta migratoria* L. var. *capito* Sauss. peculiar to the Island, but also by *N. septemfasciata*. These locusts which it is certain were incorrectly identified formerly, are definitely also present in the invasions in the western, central and southern regions of Madagascar.

The field observations on the biology of *Nomadacris* were verified in the laboratory by numerous breeding experiments. The life-history of the insect is annual. From the breeding experiments carried out at Antananarivo during the cold season (May-September, 1937), in heated cages and at a sufficient humidity, it has not been possible to obtain a second annual generation. These insects arrive at the adult stage, according to district, from March to April and remain at this stage up to November-December, the oviposition period.

To sum up, these biological and biogeographical observations show the danger of the spread of this species which, though of migratory habit concen-

trates chiefly in the valleys of the large rivers *i. e.* in those areas where, owing to the fertility of the soil and the adequate water supply, the crops are specially valuable. The long duration of the adult stage (March-December) and the voracity of these insects are factors which render this species particularly dangerous to the agricultural economy of Madagascar.

Poland: The Beet Leaf Bug *

Of recent years Poland has been infested by the beet leaf bug (*Piesma quadratum*, Fieb.); it is the cause of the virus disease similar to curly top. This disease of the sugar beet was first reported in 1930 in the districts bordering Germany, although at that time the vector was not known. A loss in yield from the crops attacked was remarked by beet-growers, and in 1935 it was ascertained that the beet leaf bug was the cause of the disease.

Control measures were then organized and a Committee for the control of the beet leaf bug, composed of experts, beet growers and members of the beet sugar industry, was established at Poznań. This Committee's inspectors report the foci, and effect control by means of trap bands and late sowing. This method has already given satisfactory results. Following the Committee's recommendation, the Ministry of Agriculture and Agricultural Reform issued a Decree on March 2, 1938 prohibiting beet sowing before the middle of May, and ordering the use of trap bands in six districts bordering Germany of Poznań county.

In 1938, over 30 districts had become infested; the insect advances in an north-easterly direction at the rate of 30 km. per annum.

Together with the application of control measures, biological research was carried out. The beet leaf bug has two generations in Poland, but when conditions are unfavourable the second develops only partially. Complete development is produced on sugar beets, stock beets and spinach. No natural parasites of the leaf bug have yet been found, although good results have been obtained with an entomogenous fungus.

Southern Rhodesia: Locust Invasion, 1932-39 †

Monthly Report No. 77. April, 1939.

The campaign against hoppers of the red locust (*Nomadacris septemfasciata*, Serv.) has come to an end in most districts during April, the surviving hoppers having matured.

* Communication from the official correspondent of the Institute, Professor STANISŁAW MINKIEWICZ, Chief of the Department of Entomology, Government Institute for Agricultural Research, Puławy, Poland.

† Communication from the official correspondent of the Institute, Mr. RUPERT W. JACK, Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

No report of movements of winged swarms had been received, however, at the end of the month.

The campaign has been hampered by the exceptionally wet weather from December to March, but the damage to crops has not been generally serious, the destruction of twenty-three native gardens in one district constituting the most serious loss reported to date.

Italian Somaliland: Locust Movements *

On May 1, 1939, some swarms were reported over Carrei (Gherire); the locusts settled in the zones between Ganale Doria and Uebi Gestro. On the 3rd, another large swarm was observed over Baidoa flying towards the Doi region. On the 5th, Baidoa reported that the locusts had passed on to Oddur; no egg-laying was noted. On the 8th a small swarm settled to the south of Buracaba, where egg-laying took place. This swarm then left Buracaba territory taking a southerly and south-easterly direction (Doi). On the 12th, a large swarm from the north was observed over Buslei (Bardera) flying towards Dugiuma. Egg-laying took place at Heima and Buslei. On the 17th, hoppers were noted in the Bur-Sciunle zone (Baidoa). On the 18th, a small swarm was observed at Gelib; it crossed the Juba near Cabobe and continued in the direction of Afmadù. On the same day, egg-laying at Buracaba and hoppers at Audinle and Berdale (Baidoa) were reported. On the 19th, further egg-laying was noted to the east of Oddur. On the 20th, hoppers appeared in the environs of Lugh Ferrandi; several hopper bands were also reported between Malca Rie and El Uak and between Lugh Ferrandi and Malca Rie. On the 23rd, more hopper bands were discovered at Dinsor. On the 24th, a considerable number of locusts was present in the Uegit territory. On the 27th, a swarm was reported in the Bargheile area (Uebi Gestro); on the 29th, another large swarm passed over Imi towards Carrei. On May 30, hatchings took place over large areas in the El Uak territory.

Control operations are carried out in the invaded area by the staff of the agricultural Services with the assistance of the government authorities and the population. Europeans were sent to handle the inflammable material and poisonous substances employed.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Italian East Africa. — Decree No. 230 of March 15, 1939, prohibits the import of unspun cotton into Italian East Africa.

The import of cotton seed is only allowed if authorized by the ' Ente per il cotone dell'Africa italiana '. Indication must also be given of: (*a*) the locali-

* Communication from Dr. LUIGI BOZZI, Chief of the Agricultural Services of Italian Somaliland, Mogadiscio, transmitted to the Institute by the Government of the Colony.

ties into which the seed is to be imported; (*b*) the varieties and quantity of seed imported; (*c*) the regions in Italian East Africa where the seed is to be sown.

All cotton seed to be imported should be sent in sacks sealed by the Phytopathological Service of the country of origin and accompanied by a health and provenance certificate.

Cotton seed may only be imported through the customs houses at Aiscia, Assab, Chisimaio, Gambela, Massawah, Mogadiscio and Tessenei.

If on arrival, consignments of cotton seed are found to contain animal or plant parasites noxious to the cultivated or useful wild plants of Italian East Africa, the Phytopathological Service will decide whether the seed is to be disinfected at the expense of the owner or to be destroyed without indemnity.

It is prohibited to send cotton seed to zones other than those into which import is authorized. The transport of seed produced locally from one region to another is prohibited unless authorized by the aforesaid ' Ente '. In the all the territories of Italian East Africa, cotton seed should be stored in warehouses recognized by the ' Ente '.

In the cotton districts, only the seed supplied by a grantee ('concessionario') or authorized by the ' Ente ' may be sown. If any other seed is employed, the plantations will be destroyed, no indemnity being allowed.

The polyannual native cotton crops in the cotton districts must be destroyed by their owners within a year from the date of this Decree.

After harvesting, all plant trash must be destroyed within a certain period which will be fixed for each particular zone by Ordinance of the Governor General.

Diseases and pests should be immediately reported by the grantees of the districts and by cotton growers to the competent authorities, who in turn will advise the Government General and the ' Ente '.

The establishment of ginneries by organizations or private individuals not grantees of cotton districts may only be authorized by the Government General. (*Giornale Ufficiale del Governo Generale dell'Africa Orientale Italiana*, Addis Abeba, 1° maggio 1939, anno IV, n. 9, pp. 486-487).

Netherlands East Indies. — Ordinance No. 699 of December 23, 1938 published on December 30, lays down the regulations regarding the inter-insular transport of potatoes. (*Staatsblad van Nederlandsch-Indië*, blz. 1-3).

*** Ordinance No. 700 of the same date requires that potatoes for inter-insular transport shall be recognized as free from the potato moth (*Phthorimaea operculella*) and late blight (*Phytophthora infestans*). (*Ibid.*, blz. 1-2).

Italy. — By a Ministerial Decree of April 22, 1939 a competition on the basis of qualifications and a written examination was opened for the award of twelve scholarships for advanced study in phytopathology and agricultural ento-

mology at the Royal Institutes for research in plant diseases and at the Royal Observatories of Plant Diseases. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 21 maggio 1939, anno IX, n. 12, pp. 1142-1143).

*** By a Ministerial Decree of April 24, 1939 the removal and destruction (by burning) of branches of citrus trees infected with 'mal secco' disease [*Deuterophoma tracheiphila*] is made compulsory in the citrus-growing districts of the province of Palermo. (*Ibid.*, 11 maggio 1939, n. 11, pp. 987-989).

*** Law No. 737 of May 19, 1939 converts into Law, with some modifications of an administrative order, the Royal Decree-Law No. 2205 of July 27, 1938 relative to the organization and operation of the Royal Agronomic Institute for Italian Africa [see this *Bulletin*, 1939, No. 4, p. 85]. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 3 giugno 1939, anno 80°, n. 130, pp. 2546-2547).

*** By three Ministerial Decrees of May 25 and 29, 1939, the control of the olive fly [*Dacus oleae*] by arsenical sprays has been made compulsory for the year 1939 in the following communes: Pisciotta of the Province of Salerno; Casale Marittimo, Castellina Marittima, Fauglia, Guardistallo. Lorenzana, Crespina, Montescudario, Monteverdi Marittimo, Ripabella, Sante Luce Orciano of the Province of Pisa; Termini Imerese, Altavilla Milicia and Trabia of the Province of Palermo. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 11 giugno 1939, anno IX, n. 14, pp. 1227-1232).

*** By two Ministerial Decrees of June 2 and 6, 1939, the control of the olive fly [*Dacus oleae*] by arsenical sprays has been made compulsory for the year 1939 in the communes of the Province of Leghorn and in the commune of Lesina of the Province of Foggia. (*Ibid.*, 21 giugno 1939, n. 15, pp. 1275-1278).

*** Two Ministerial Decrees of June 9, 1939 authorize the hunting of wild boars and wild rabbits in the provinces of Cagliari and Enna respectively in order to protect crops against these animals. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 15 giugno 1939, anno 80°, n. 139, pp. 2704-2705).

*** A Ministerial Decree of June 20, 1939 authorizes boar hunting in the Province of Cagliari with a view to protecting agricultural crops. (*Ibid.*, 27 giugno 1939, n. 149, p. 2937).

*** A Ministerial Decree of June 22, 1939 authorizes the hunting and trapping of wild rabbits in the commune of Santa Caterina Villarmosa in the Province of Caltanisetta with a view to protecting agricultural crops. (*Ibid.*, 6 luglio 1939, n. 156, p. 3072).

Morocco (French Zone of). — Two Decrees of May 19, 1939 authorize the destruction of rabbits, which are causing considerable damage to crops in certain parts of the territory of the Southern Guerrouane tribe, Meknès district and also to crops and plantations in the territory of the Slès tribe, Fez district. (*Bulletin Officiel*, Rabat, 2 juin 1939, XXVIII[e] année, n° 1388, p. 790-791).

*** A Decree of May 26, 1939 authorizes the destruction of wild boars, which are causing considerable damage to agriculture in the territory of the tribe Irklaouen of Tigrigra, Circle of Beni M'Guild. (*Ibid.*, 9 juin 1939, nº 1389, p. 825).

*** Two Decrees of June 1, 1939 set up the syndical association for the control of the plant parasites of Sidi-Slimane and the syndical association for the control of the plant parasites of Bas-Sebou. (*Ibid.*, 16 juin 1939, nº 1390, p. 868-871).

*** Seven Decrees of June 2, 1939, relating to the inspection of fresh plums, fresh walnuts, pomegranates, fresh olives, fresh almonds and fresh apricots for export lay down that fruit exported must be free from disease and parasites. (*Ibid.*, p. 871-876).

*** An Order of June 16, 1939 authorizes the destruction of rabbits, which are causing heavy damage to the crops and plantations in the Ouezzane Circle. (*Ibid.*, 30 juin 1939, nº 1392, p. 966).

*** By Order of June 17, 1939, the last para. of Article 3 of the Order of September 10, 1936 relative to the import of plants [see this *Bulletin*, 1936, No. 11, p. 247] is modified as follows:—

'These costs and indemnities are fixed at a round sum of 110 francs for Martimprey-du-Kiss....' (*Ibid.*).

Mexico. — A Decree of February 21, 1939 authorizes a regional Committee to be formed for the control of the 'rata del campo' (*Sigmodon* sp.) in the Ciénaga de Chapala zone between the States of Jalisco and Michoacán, and fixes the duties of the said Committee. (*Diario Oficial*, México, 24 de marzo de 1939, tomo CXIII, núm. 21, págs. 2 y 3).

New Zealand. — By Special Order made by the Hawke's Bay County Council on March 13, 1939, hemlock (*Conium maculatum*) has been declared to be a noxious weed in the said County. (*The New Zealand Gazette*, Wellington, March 23, 1939, Numb. 19, p. 723).

*** By Special Order made by the Hokianga County Council on March 14, 1939 the *Eupatorium* plant has been declared to be a noxious weed within the County of Hokianga. (*Ibid.*, March 30, 1939, Numb. 20, p. 768).

Portugal. — By 'portaria' No. 9:216 of May 10, 1939, the control of the fruit fly (*Ceratitis capitata*) and the Argentine ant (*Iridomyrmex humilis*) has been made compulsory in the zones of Ponta Delgada, Portimão, Lagos and Silves. (*Diário do Govêrno*, Lisboa, 10 de maio de 1939, 1 série, núm. 107, pág. 337).

Uruguay. — Decree No. 684/935 of March 29, 1939 lays down that 'abrojo grande' plants [*Xanthium canadense*] must be destroyed each year before January 31. (*Diario Oficial de la República Oriental del Uruguay*, Montevideo, 22 de abril de 1939, tomo 135, núm. 9789, págs. 160-A y 107-A).

*** Resolution No. 1237/938 of April 12, 1939 authorizes the expenditure of 1500 'pesos' for the control of the potato moth (*Phthorimaea operculella*). (*Ibid.*, pág. 108-A).

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NOTES

Official Correspondents of the Institute. — Dr. R. WIESMAN, Phytopathologist at the Federal Experiment Station for Arboriculture, Viticulture and Horticulture, Wädenswil, Switzerland has been nominated official correspondent of the Institute for questions regarding plant protection, taking the place of Dr. A. OSTERWALDER, retired.

Third International Forestry Congress. — This Congress will be held at Helsinki, Finland, from July 1 to 5, 1940. The second section will also include questions dealing with the plants and pests injurious to forests.

Prof. UGO PAPI, *Segretario generale dell'Istituto, Direttore responsabile.*

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